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ABSTRACT

This document is a chapter in "The Principles and Practice of Educational Management," which aims to provide a systematic and analytical introduction to the study of educational management. The structure of the book reflects the main substantive areas of educational leadership and management, and most of the major themes are covered in the volume's 19 chapters, of which this is one. This chapter examines the development of increased school autonomy in the governance structure of an education system and how these changes affect educational finances. School autonomy is related to a school's power to choose its own actions unconstrained by other organizations. Many times autonomy is enhanced through decentralization and becomes manifest in self-managing schools, school-based management, political decentralization, and self-governing schools. However, the arguments for and against increased school autonomy must be considered in the context of funding and provision; markets, hierarchies, and networks; efficiency; and equity. Competition is seen as the main driving force behind efficiency, and those who argue for heightened competition among schools claim that it gives managers and teachers the needed incentives to improve productivity. The impact of a policy of increasing school autonomy depends, first, on whether it is primarily in the form of self-managing schools within a central regulatory framework or, second, relies mainly on increased competition, either among state schools or among the public and private sector. Decision-makers must be careful in assessing research on questions of efficiency, equity, and autonomy since different methods have been used to measure these outcomes in different school systems. (Contains 51 references.) (RJM)

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Efficiency, Equity and Autonomy.

Rosalind Levacic

2002

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Efficiency, Equity and Autonomy

Rosalind Levačić

Introduction

Over the last 15 years or so, countries in all parts of the world have made efforts to decentralise their education systems and increase the degree of school autonomy. The World Bank (1995) promotes such policies in developing countries. For example Nicaragua and El Salvador have increased state school autonomy (Jiminez and Sawada, 1998; King and Ozler, 1998; King et al., 1999), while projects in Pakistan and Columbia (Kim et al., 1998; King et al., 1998) aim to increase the participation of low-income children in schooling through extending private school provision. Large-scale delegation of management responsibilities to school level has occurred as part of systemic reforms in the UK, Australia, New Zealand, Sweden and The Netherlands. Decentralisation, though not on the scale of the countries just listed, is ongoing in many other countries (e.g. Italy, Israel, Spain). In the USA many states and school districts have introduced various forms of community involvement in the running of schools (e.g. Chicago), greater resource management autonomy (Seattle, Pittsburg, Cincinnati), education vouchers (Milwaukee) and charter schools.

The purpose of this chapter is to examine the development of greater school autonomy as a change in the governance structure of an education system. It examines the arguments for and against decentralisation and school autonomy as ways of improving the efficiency of the school system. It also considers what may be the effects of such developments on equity, that is on the access of different social groups to education. These are controversial issues and remain so despite many empirical studies on the effects of different policies in different settings.

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What is school autonomy?

Autonomy

The dictionary definition of autonomy, derived from the Greek, is 'self-governing' and hence 'functioning independently without the control of others'

(West, 1992). West emphasises the autonomy of consumers, 'who must be free to choose a better school and reject an inferior one', as well as to the autonomy of schools. Chubb and Moe (1990) – strong advocates of voucher systems which enable low-income children to attend private sector schools – define autonomous schools as 'free to govern themselves as they want, specify their own goals, programmes and methods'.

As Berka (2000) points out, a school's ability to be self-regulating depends on its power to choose its own actions unconstrained by other organisations or social institutions, which include the economy (market forces) and cultural institutions, such as the churches, as well as the state. In order to have a working definition of autonomy I follow Berka's suggestion that the concept is restricted to the relationship between the educational organisation and the state.[1]

Decentralisation

An increase in institutional autonomy is achieved through decentralisation, which is the process of transferring decision-making authority for particular functions from a higher to a lower level (Hanson, 1998). Powers are devolved to a lower level when this is permanent but are delegated if the central authority can readily reappropriate them (Office for Official Publications of the European Communities, 2001: 180). Deregulation is the process by which the number and extent of regulations (rules and laws) that constrain what a school (or other entity) can do are reduced. Thus extending the scope of decision-making at institutional level is very likely to involve deregulation.

Forms of school autonomy

The degree and nature of school autonomy depends on which domains of decision-making are within the discretion of the school and which are taken at a higher level. The main domains of decision-making are (Karstanje, 1999; Levačić, 1995):

- school organisation: structure, differentiation, decision-making processes, capacity, class size
- curriculum (guidelines, content, hours, textbooks), teaching methods and assessment
- staff: regulations on qualifications, appointment and dismissal, in-service training, appraisal, pay and conditions of service, including methods of performance management
- financial and resource management: spending decisions; size of staffing establishment, premises, information systems, financial assets and liabilities
- external relations: admissions policies, pupil recruitment, relationships with other organisations (e.g. trade unions).

Within each dimension some decisions can be assigned to schools and others to higher levels. What form school autonomy takes and the governance structure of the school system depend on the allocation of the different domains and the extent of delegation to schools within each domain. By classifying the different domains, education systems can be compared for their degree of decentralisation. For example, the Organisation for Economic Co-operation and Development (OECD) publishes indicators of decision making at school level (OECD, 2000). An important distinction, made by Caldwell in Chapter 3, is between self-managing schools and self-governing schools. The former has significant delegation or devolution of decision-making, particularly over resources, but operates within a centrally determined framework of standards and accountability. Self-governing schools do not operate within such a framework, hence private schools in most systems are self-governing.

Self-managing schools

The extent of school autonomy over resources in EU countries is highly variable. Only in the UK[2] and The Netherlands are all state schools allocated a global budget to spend as they choose on the full range of resources including staffing. In Finland and Sweden local authorities have discretion to grant schools full autonomy in resource management. More commonly, in European Union (EU) countries, resource management powers at school level are restricted to operational resources (learning materials, and general supplies and services including administration) (Office for Official Publications of the European Communities, 2001).

In the English system, schools purchase almost all the resources they use out of their delegated budgets. From 2001 delegation was further extended so that all schools have devolved capital budgets to spend on capital projects of their own choosing. Since the implementation of the 1988 Education Reform Act schools have been able to choose their own staffing establishment and select and dismiss staff. However, school performance is highly regulated by central government and its agencies. In 1990 a national curriculum was introduced, as were national key stage tests at ages 7, 11 and 14 and the publication of school key stage test and public examination performance results. In 1993 the Office for Standards in Education (Ofsted) was set up. It oversees the national inspection at regular intervals of all state maintained schools, which are inspected against a published set of criteria. Inspection reports are published and available on the internet. Schools have to produce and implement action plans for the key issues for improvement set out in the inspection report. Schools that fail an Ofsted inspection are 'placed in special measures' and their progress regularly monitored by inspectors who determine whether the school can be removed from special measures. Under the 1998 School Standards and Framework Act, a school in special measures that fails to

improve can be closed and reopened as a 'Fresh Start' school. Targets for examination and test results have been set nationally and for local education authorities (LEAs) and schools. Centrally devised literacy and numeracy teaching programmes have been instituted. In 2000 a mandatory system of performance management of headteachers by the governing body of the school and of teachers by the headteacher was introduced. Systems of self-managing can be found elsewhere, as in Australia (Victoria), New Zealand and Edmonton (Canada).

School-based management

However, in other countries the move to greater school autonomy has not occurred or is not occurring within such a strong framework of performance regulation. Often this is because the highest level education authority does not have the power that the British Parliament does to legislate what local government must do, or because teacher trade unions are more powerful. Thus in the USA school autonomy has taken on different forms. There the concept of school-based management has been taken over by the school improvement movement. There is much greater emphasis on school-based management of learning communities by teachers and parents, supported by external capacity-building agents, though the need for a rigorous external accountability framework is also stressed (Fullan and Watson, 2000).

Political decentralization

In other political contexts greater school autonomy is motivated not so much by a press for school improvement, than by the decentralisation of power for its own sake as part of a national democratisation process. Examples cited by Hanson (1998) include Venezuela, Spain, Argentina, Colombia, Chile and Mexico. There has been a similar movement in the ex-communist countries of Central and Eastern Europe (Karstanje, 1999). Greater school autonomy will only result from such decentralisation if it does not cease at local authority level but is extended to schools, as in the Czech Republic.

Self-governing schools and privatisation

In general private schools have greater autonomy, since they are not subject to regulations that state schools have to abide by (e.g. terms and conditions of service for teachers, selection of pupils, choice of curriculum). However, the definition of the private school sector differs across countries, is not always clear cut, and in some countries private schools are extensively state funded and subject to state regulation (Sosale, 2000), so there may be exceptions to the general rule.

Given that private schools have a greater degree of autonomy than state schools, then one way of increasing the overall degree of school autonomy in the system as a whole is to shift provision to the private sector. This is what occurs under voucher schemes, which parents can choose to use for either public or private school places, as in Chile, Colombia, Milwaukee and Sweden, for example. In some developing countries, for example Tanzania, Ghana, Pakistan and Colombia, the shortage of state school places is being tackled by a growth in private schools for which parents pay fees.

This way of increasing the degree of school autonomy in the system as a whole is known as privatisation. This is a general term, which refers to the transfer of responsibility for the production of goods and services from the state to the non-state sector, which includes commercial firms, not-for-profit organisations and households. Apart from vouchers, private sector school sponsorship is another form of extending school autonomy. The state funds or partially funds private sector organisations to provide and manage a school under contract (Hill et al., 1997). The contract stipulates the expected performance of the school, its organisation, admissions policy and other features, as well as payments to the contractor contingent on performance. One example is the increasing number of charter schools being created in the USA. In England there are 15 city technology colleges, set up in 1986 in inner city areas, which are run by private trusts, with private and state funding. The Beaconhouse project in Pakistan, funded in part by World Bank loans, aims to widen access to schooling, particularly for girls, through private sector involvement (Sosale, 2000).

The arguments for and against increased school autonomy

This section examines the arguments for and against increased school autonomy. The basic theory from which the arguments derive applies to both forms of increased school autonomy: self-managed schools and privatisation. More detailed predictions of how increased school autonomy affects the quality of educational provision and the distribution of access to educational opportunities depend on the precise nature of the scheme being proposed or implemented.

Funding and provision

The provision of schooling and the finance of schooling need to be considered separately. Whether the school provider is in the public or private sector depends on whether or not the school's assets (buildings and grounds) are owned and its management employed by a state sector legal entity.[3] Funding can come from either the state or the private sector (parents, charities, churches and business sponsorship). This gives the four possible combinations of private and public provision and funding shown in Figure 12.1.

FUNDING	PROVISION: PUBLIC	PROVISION: PRIVATE
PUBLIC	TRADITIONAL WELFARE STATE: BUREAUCRATIC PROVISION	STATE SUBSIDISED PRIVATE SECTOR PROVISION
PRIVATE	USER CHARGES AND SPONSORSHIP	PURE MARKET PROVISION

Figure 12.1: Combinations of public and private funding and provision of schooling

The traditional welfare state model of school provision consists of state funding together with state provision. At the other extreme is private funding and provision of schooling, where the market alone determines the quantity, quality and distribution of schooling. In between we have different combinations of mixed private/public funding and provision, characteristic of the 'Third Way' now favoured by social democratic politicians who have taken on board many aspects of the policies of previous more right-wing inclined governments (Giddens, 1998). This taxonomy produces four models:

- *model 1*: traditional state bureaucracy with all funding and provision of schooling within the public sector
- *model 2*: state funding and private sector provision (e.g. vouchers)
- *model 3*: private sector funding and state provision
- *model 4*: pure market: private sector funding and provision.

Markets, hierarchies and networks

In order to consider the properties of these models it is useful to distinguish three major types of mechanism which are used by society for co-ordinating decisions about what goods and services to produce, how to produce them and to whom to distribute them (Thompson et al., 1991). The three basic co-ordination mechanisms are:

- market (the price system)
- bureaucracy or hierarchy
- network or mutual adjustment.

The distinguishing feature of the market is that the participants co-ordinate their activities by engaging in exchange of goods and services at a price. Activities that are co-ordinated within an organisation, which can be either in the private or public sector, have different mechanisms of co-ordination. In a

bureaucratic organisation co-ordination occurs through a hierarchical chain of authority, by which superiors pass on orders to subordinates and grant subordinates the resources needed to implement the orders.

Another method of co-ordination used in organisations is mutual adjustment or networking, whereby participants engage in informal exchanges of services, including information exchange. Mutual adjustment can occur both within the organisation and between organisations.

The four permutations of school finance and provision are distinguished by their different combinations of hierarchy, market and network. Model 1 relies on hierarchy and model 4 on market co-ordination. All three co-ordination mechanisms affect and are in turn affected by organisational cultures and the values and practices of individuals. Mutual adjustment is particularly dependent for its functioning, which is largely informal, on shared cultures, values and norms.

The development of greater school autonomy marks a decreased reliance on hierarchy or state bureaucracy as a co-ordination mechanism, in favour of markets and networking. Clearly, privatisation means greater use of the market mechanism, but so usually does decentralisation within the state school system. The delegation of budgets for schools to determine how to spend means that schools purchase goods and services from a variety of suppliers and no longer have them bureaucratically allocated by a local education authority or Ministry of Education. Once state schools are allocated budgets, the amount of budget is usually determined by a funding formula. If a high proportion of the funding is allocated on a per pupil basis and if parents can express a choice of state school, rather than be administratively allocated a school place, then the funding of state schools becomes demand led. In this way an internal market in schooling is created, since the provision of education – undertaken by schools – is separated from the purchase of schooling, which is done indirectly by parents, with the funding following the pupil. This system is called a quasi-voucher system, since it functions very similarly to a voucher system in which parents receive actual certificates that they can cash in at a school of their choice which admits their child.

Evaluative criteria: efficiency and equity

The arguments concerning what is the best school governance structure in terms of who provides, who funds and the combinations of hierarchy, market and networking which are used as co-ordination mechanisms are evaluated in relation to the likely impact on the efficiency and equity of the school system. Since there are differing views on what constitutes equity, what is the desirable trade-off between efficiency and equity, and how much should be spent by the state to secure greater equity, the choice of governance structure is necessarily a political one. The role of economic analysis is to predict from theoretical

propositions the likely efficiency and equity effects of different governance structures. The purpose of empirical research is to find evidence about the actual relationships in the real world between different governance structures and their impact on the efficiency and equity of the education system.

Efficiency The attraction of the efficiency criterion is that it is concerned with detecting situations in which specific policies or institutional arrangements will produce net benefits for society. So, if a particular way of using a given quantity of resources can produce a higher value of output than another way, then it is more efficient because it produces more value for society. Efficiency is defined as a positive sum game: as long as there are possibilities of exchange between two people, which they would both engage in because it would make them better off, then the economy is not yet in an efficient equilibrium. Hence efficient institutional arrangements encourage all potentially beneficial exchanges between people to take place. When an economy is in an efficient equilibrium it is impossible to make anyone better off without making at least one other person worse off.

Efficiency consists of two elements (Levin, 1990; 1997). The first is *productive efficiency*, which is the relationship between the amount of output produced and the cost of inputs used to produce that output. A cost-efficient method of production produces a given set of outputs at least cost. An equivalent definition of productive efficiency is the maximum possible educational output from a given quantity of resources. If a school is producing less than the maximum feasible educational output then it has a degree of inefficiency, which is the difference between actual output and maximum output.

The productive efficiency of a school is difficult to define and measure in practice because schools produce a variety of outputs, some measurable, like examination results, and others which are intangible, such as socially desirable attitudes and values. Even if we restrict efficiency to measurable outputs, the effect of factors that the school cannot influence directly (except by selecting its pupils), such as pupils' ability, motivation and prior attainment, need to be taken into account statistically. Another problem with productive efficiency is that its value depends on the value attached to the output used in the output/input or output/cost comparisons. A school could be very efficient at producing an educational output (e.g. knowledge of Latin or animal husbandry) to which others in society may attach little value.

Because of this limitation with the definition of productive efficiency, there is a second aspect of efficiency known as *allocative efficiency* which takes into account consumers' valuation of goods and services. A system is said to be allocatively efficient if, with a given amount and distribution of resources, it produces a combination of goods and services which consumers value most. Adapted to schools, allocative efficiency is about giving parents greater diversity in the educational provision (e.g. in school curriculum and ethos) from

which they can choose, so that parents can have the type of education for their children that they prefer.

Another way of buttressing productive efficiency is to use the concept of effectiveness. An organisation is effective to the extent that it achieves its objectives. This takes no account of the cost of resources used. Clearly the assessment of effectiveness depends on a prior value judgement about the value of the objectives. Effectiveness is a term widely used in making judgements about schools. A popular definition of effectiveness comes from value-added analysis. A school is effective to the extent that the performance of its students on some measure of educational achievement exceeds that which would be predicted on the basis of the students' prior attainment and other characteristics from analysing the results of a large number of schools (Teddlie et al., 2000).

If an organisation is both effective and efficient it provides value for money. Even though productive and allocative efficiency are difficult to measure and cannot be defined without making value judgements about the social value of the educational outputs, they are widely used – often implicitly – by non-economists. The distinction between them shows up in important differences in emphasis in education policy advocacy. Policies to increase school autonomy that are intended to improve educational standards and are accompanied by strong external accountability systems for schools focus on productive efficiency. Policies that primarily aim to increase school choice are focused on allocative efficiency. A pure market school system would leave consumers to define education standards for themselves and thus would enable diversity in provision to flourish. However, governments often do not trust consumers to have sufficient knowledge, information and incentives to choose wisely on behalf of their children and, thus, to ensure sufficiently high education standards. If a common standard is to be defined, imposed and monitored then a common measure is required which makes it impossible to allow full diversity of provision to flourish. The greater the concern with achieving a common national standard, and with doing this to best effect within the resources provided, the more the government's focus is on productive rather than allocative efficiency. School systems generally display some balance between attending to productive and allocative efficiency.

Equity Equity is the 'fairness' of the distribution of economic welfare amongst individuals. A change in the distribution of income, say to give more to those who have less, is necessarily a zero sum game since some must lose for others to gain. Equity has two dimensions: horizontal and vertical. Horizontal equity refers to the equal treatment of people with similar needs or characteristics. Thus it is horizontally equitable to spend the same amount on educating each child or to ensure equal access to educational opportunities for all children regardless of income or class. Equity may also be measured in

terms of outcome. Hence it would be equitable for all children of similar ability to achieve the same educational standards or qualifications, regardless of gender, ethnicity or social class. Vertical equity concerns giving additional resources to those with additional needs. It is more difficult than with horizontal equity to judge whether differences in compensatory amounts are equitable.

Equity is judged separately from efficiency. An efficient system may be judged by some to be inequitable, while an inefficient system might be judged equitable if it produces the same level of educational outcomes for all.

The efficiency and equity properties of greater school autonomy

Economists have long argued that organisations, be they firms or schools, will operate with a degree of inefficiency in the absence of competition from alternative suppliers. This applies equally to private and public sector organisations and will involve both allocative inefficiency (charging prices above the marginal cost of production or not responding to consumer preferences) and productive inefficiency (producing less than the maximum amount of output from a given quantity of resources). This arises from the incentives of managers, workers and shareholders (in the case of the private sector) to pursue their interests in having higher income, less effort in seeking out efficient ways of operating or enjoying job perquisites, rather than pursuing the interests of consumers. Competition from alternative suppliers forces producers to attend more closely to their consumers' interests.

One can usefully distinguish two forms of school autonomy that are intended to improve efficiency:

- self-managing schools
- increased competition.

Self-managing schools· Hierarchical co-ordination is inefficient if the top bureaucrats or managers do not have the information needed to determine the most efficient ways of combining resources and responding to client needs at the operational, i.e. school, level. This is often because they have too much of the wrong information, as when they are making detailed allocation decisions about staffing, textbook use or premises repairs at school level. According to the institutional theory of the firm (Williamson, 1975) it is more efficient for a large multi-product firm (such as an education authority) to delegate operational decisions to the unit (school) managers and to control them by setting them performance targets consistent with the organisation's objectives. Unit managers are given performance incentives and rewarded according to performance, which is monitored. Top managers are then able to concentrate on the information needed for determining organisational strategy and

evaluating performance. The system of self-managing schools replicates this management model.

In this analysis, a system of self-managing schools will be more productively efficient than centralised regimes because it provides school managers and teachers with greater incentives to attain high educational standards and provides them with greater managerial flexibility to do so. How much school autonomy is required for this system to work well is a contentious issue. Largely it revolves around how much external assistance and direction schools require for them to adopt better production (i.e. learning) technologies. Fullan and Watson (2000), for example, conclude that school-based management requires external assistance for capacity-building if schools are to improve learning outcomes. The Labour government in Britain from 1997 became highly interventionist in prescribing teaching methods and giving many different forms of specific grant for particular purposes (e.g. national literacy and numeracy strategies, induction of newly qualified teachers, information and communication technology [ICT] investment and many others). Whether school self-management improves productive efficiency depends on incentives and the extent to which these motivate school managers and teachers to higher performance.

Competition as an incentive for efficiency improvements Those who favour the introduction of greater competition between schools argue that this provides the necessary incentives for managers and teachers to improve productivity. Increased competition can be restricted to giving parents greater choice of state school or be extended to fostering competition between private and state sector schools through vouchers or similar schemes (e.g. charter schools). Whether increased competition improves the efficiency of state schools depends on the degree of organisational slack initially present, on the ability of state schools to improve productivity by adopting more efficient learning technologies, and on the desire and ability of parents to put pressure on inefficient schools by making school choices based on good information about school quality. Alternatively, overall efficiency is improved by shifting more production to the private sector, provided that private schools are more efficient than state schools.

However, competition may fail to improve the productivity of the school system as a whole if it results in 'increased sorting', that is the greater concentration of more able students in some schools and of less able and less motivated students in others. Increased sorting by itself, though often considered socially undesirable because it reduces social cohesion, would not affect the average educational attainment of pupils if the attainment of individual children depended only on their own characteristics and the quality of teaching experienced. However, there is considerable evidence that an individual pupil's educational attainment is also affected by the average level of ability or

attainment of the peer group (McEwan, 2000; Sammons et al., 1996). If the less able children are more adversely affected by low-ability peers than the more able children are stimulated by high-ability peers, then increased sorting will reduce average attainment across the school system.

Equity The effect of increased competition on the social composition of schools depends very much on the type of quasi-voucher or voucher scheme introduced. Clearly a non-means-tested voucher, issued to all parents (as in Chile) is less vertically equitable than a means-tested voucher or one limited to low-income parents (e.g. in Milwaukee and Colombia). A means-tested voucher that provides low-income children with access to private schools is advocated by those who believe it will reduce social inequality, since a system of neighbourhood state schools is socially segregated because different social groups are concentrated in different residential districts. How well vouchers achieve more equal access to higher-quality schools depends on whether schools select voucher-paid pupils on grounds of ability and motivation, and on whether all parents make equal use of their vouchers to select the best available school for their child. If schools select pupils and some parents are 'inert' and so fail to exercise choice options, then the least motivated children with least parental interest in learning will become more concentrated in certain schools.

The main equity concern with respect to systems of self-managing schools is that the strong external pressures for school performance, measured in terms of students' academic attainment, makes schools more reluctant to accommodate students who are difficult to teach either through behavioural problems or learning difficulties. In the initial years of local management of schools in England, exclusions from schools increased (Parsons, 1996) but subsequently fell back slightly under government pressure.

Empirical evidence

The empirical literature is vast since it covers evaluations of many different types of education policy involving increased school autonomy, in many countries, and uses a wide range of research methods. It is very difficult to establish valid evidence for causal links between variables in the social world, unless controlled experiments are carried out (Heckman, 2000; Meyer, 1995). Then one can compare the educational outcomes for equivalent groups of children who have experienced a different policy (e.g. greater school autonomy) relative to a control group who have not. Without control groups, correlational analysis is used with quantitative data. However, the existence of a high correlation between two variables does not ensure any causal linkage between them, since the correlation could be due to an unobserved factor. For example, children may make more progress in private schools, not because private

schools are more efficient, but because parents who choose private schools take more interest in their child's education. This problem is known as selection bias. Qualitative methods, while they provide insight and understanding of the impact of policy measures, do not establish causality.

I will briefly consider some selected evidence relating to examples of self-managing schools and to increased competition via vouchers.

Self-managing schools

In England studies of the effects of school-based resource management, which were qualitative, concluded that it had improved the efficiency with which schools used resources (Audit Commission, 1993; Bullock and Thomas, 1994; Levačić, 1995; 1998; Maychell, 1994). As indicated by Table 12.1, educational attainment, measured by the key indicators used by the government in evaluating schools' performance, has increased over time, although the real value of expenditure per pupil did not rise over the period as whole, except for primary schools in 1999 and 2000.

Table 12.1 *Educational attainment indicators and government expenditure per pupil: England, 1991–2000*

	Key Stage 4: % pupils aged 15+ attaining:		*Key Stage 2: % pupils attaining level 4 & above*			*Key Stage 1: % pupils attaining level 2 & above*			Expenditure per pupil (1996/7 prices)	
Year	5+ A* to C grades	5+ A* to G grades	English	Maths	Science	Reading	Writing	Maths	Primary £	Secondary £
1991	36.8	79.5							1617	2427
1992	39.0	82.0							1673	2446
1993	42.0	84.3							1748	2482
1994	43.3	85.6							1748	2412
1995	43.5	85.7	49	45	70	78	80	79	1748	2412
1996	44.5	86.1	57	54	62	78	79	82	1748	2364
1997	45.1	86.4	63	62	69	80	80	84	1730	2340
1998	46.3	87.5	65	59	69	80	81	85	1695	2293
1999	47.9	88.5	70	69	78	82	83	86	1783	2316
2000	49.2	88.9	75	72	85	84	82	88	1852	2411

Sources: DfEE (1998; 1999; 2000) School Performance Tables (DfEE)

The evidence is consistent[4] with improved productive efficiency, provided that the tests have not become easier. Fullan and Watson (2000: 459), in a review of school-based management in North America conclude that it improves educational attainment, providing that greater school autonomy is combined with local capacity building, rigorous external accountability and access to innovation.

Evidence of inefficiency in resource allocation in centralised schools systems in developing countries has been found in studies of the relationship between the mix of resources used and student outcomes (Fuller and Clarke, 1994;

Hanushek, 1995; Pritchett and Filmer, 1999). Too high a proportion of spending tends to be on teachers and insufficient on textbooks and other learning materials. Investment in the latter has a higher return in terms of gains in student achievement. Hence the World Bank is encouraging greater school autonomy in determining expenditure on resources. For instance in Sri Lanka it is funding a programme to increase the amount of operational resources schools have and enabling schools to purchase these instead of having them allocated bureaucratically by provincial offices (Sri Lanka Ministry of Education and Higher Education, 2000).

Increasing competition: (quasi-) voucher schemes

Research on the effects of competition has investigated the two key questions.

- Is student attainment increased (either average attainment for the whole school system or the 'value-added' attainment of pupils in schools experiencing greater competition)?
- What is the impact on the educational opportunities of socially disadvantaged children? (Do they have access to better quality schools or improve their educational attainment relative to more advantaged children?)

Some examples from particular national settings are summarised below.

Quasi-vouchers in England Levačić (2001), in a study of over 300 secondary schools from 1991 to 1998, found that a self-reported indicator of the number of competitors a school reported had a statistically significant effect on the percentage of pupils achieving the 'headline' indicator of five or more grades A* to C at GCSE, equivalent to 4–5 percentage points (after controlling for free school meals and school type). There was no impact on the percentage achieving five or more A* to G grades, suggesting that government attention to the headline indicator has affected school policies and performance.

Milwaukee voucher scheme This scheme has better equity properties than many because it is restricted to low-income families and oversubscribed schools choose students by lottery. Quantitative studies have produced conflicting findings as to whether voucher children attained better results than children who remained in the public school system. Conflicting results occur because of comparing different sets of children (e.g. all those in the public school system or only those who were eligible for vouchers, or including dropouts from private schools or not). Goldhaber's (1999) short review of the research indicates little convincing evidence of private school superiority: at best it is slight. However, private schools are cheaper than public schools in the USA, but even this has been contested (Levin, 1998).

Colombia In developing countries the more pressing problem is insufficient school places, especially for secondary education. Here vouchers for low-income children are a means to increasing access if the private sector is able to respond more efficiently than the public sector. Colombia introduced vouchers for low-income secondary students in 1991. By 1995, 8 per cent of private school students were funded by vouchers (King et al., 1998). This evaluation found that the scheme was successful in increasing the supply of places by medium-quality and medium-fee not-for-profit private schools, located in major urban areas (about half the private schools) and was successful at targeting low-income children. However, only 25 per cent of municipalities participated, i.e. those which considered that the private sector could expand provision more cheaply than the public sector.

Chile In 1980 the government decentralised public schools to municipalities and began funding public schools and most private schools according to their monthly enrolments times a fixed per pupil subsidy. Teachers ceased to be civil servants and became employed by municipalities or in private schools where they usually have less job security. In 1980 15 per cent of children attended private schools (30 per cent in urban areas); by 1996 it was 34 per cent (48 per cent in urban areas). McEwan and Carnoy (2000) estimate that 15 years of competition led to modest gains of around 0.16–0.2 percentage points in Spanish and mathematics tests among public schools in Santiago but in other regions (75 per cent of the population) competition had slightly negative effects. Non-elite for-profit private schools spent less per pupil than public or Catholic schools because they paid teachers less. There is also evidence of increased social stratification in urban areas (Carnoy, 2000).

Argentina Argentina has experienced 'spontaneous privatisation' (Morduchowicz, 2001) over the lasts 50 years with state subsidies for private schools. Twenty five per cent of students, and 50 per cent in Buenos Aires, attend private sector schools, which have higher attainment on average. Enrolment in private schools is strongly related to parental income and education. Only 7 per cent of the lowest fifth of families by income send their children to private schools compared to 64 per cent of the highest fifth of families by income.

England Research on the equity effects of greater parental choice plus pupil-driven funding in England has focused on two issues: whether the concentration of socially disadvantaged pupils has increased and whether the attainment gap between the lowest achieving pupils and schools and the rest has widened. On balance the evidence suggests both have occurred to some degree. Whether research findings show social segregation has increased depends on the measure and time period used (Fitz and Gorard, 2000; Gorard and Fitz,

1999; 2000; Noden, 2000). Other research suggests that, while the average level of attainment has risen, within the secondary sector there is evidence that the attainment gap widened (Gibson and Asthana, 1999; Levačić and Woods, 2002).

Conclusion

The impact of a policy of increasing school autonomy depends firstly on whether it is primarily in the form of self-managing schools within a central regulatory framework or relies mainly on increased competition, either between state schools or between the public and private sector. If the latter, its effects on the equity of the school system depend on whether vouchers or subsidies are limited to low-income children or are used as a general way of increasing parental choice and the diversity of school provision.

One has to be very careful in assessing the vast amount of research on these questions because it applies to different school systems and uses different methods. It is particularly difficult to establish causal links. With these caveats I would conclude that self-managed schools can raise productive efficiency and that means-tested voucher schemes, if carefully designed, can enhance access to better quality schools for low-income children, though it may not do so for the most deprived. If educational policy-makers are not so concerned with either the productive efficiency of the national school system or with equality of opportunity, then greater school autonomy in a competitive environment promotes allocative efficiency in areas where the private sector has sufficient incentives to respond to market demand.

All the efficiency arguments in favour of school autonomy, in either its regulated or competitive form, depend crucially on the capacity of schools to manage their resources efficiently so as to achieve their educational objectives. This is considered in the following chapter.

Notes

1 In addition the concept of autonomy applies to individuals (e.g. professionals) vis-à-vis their relationship with the state, other organisations and their own employers and managers. But here I am only considering school autonomy.

2 In Scotland, the local education authority appoints teachers.

3 In some instances a school, which is owned by a state body (such as a local education authority) has its management contracted out to a private sector organisation. In this case, while getting closer to the private sector boundary, the assets and final responsibility for the school, is still with the LEA. The dividing line between state and private also depends on the country's legislation. So, in the UK denominational schools are regarded as state schools because they are 'maintained by the LEA' whereas in The Netherlands they are regarded as in the private sector, because the school board is under full church control, even though the schools are largely funded by the state.

4 This evidence is not proof of a causal link, since there could be other factors than self-managing schools explaining the data which have not been accounted for.

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